EQUITY RESEARCH



Telecommunications & Broadband Services

Regulatory Update

THE STATUS OF 271 AND UNE-PLATFORM IN THE REGIONAL BELLS' TERRITORIES

Type of Report
INDUSTRY REPORT

Anna Maria Kovacs, Ph.D., CFA (617) 576-5764 akovacs(a yesinvest.com

Kristin L. Burns, Ph.D. (617) 576-5764 kburns@yesinvest.com

Gregory S. Vitale (617) 576-5764 gvitale@yesinvest.com

August 22, 2002

- Since our May report, the FCC has granted 271s in four states: Georgia and Louisiana for BellSouth and Maine and New Jersey for Verizon. Applications for seventeen states: 271s are before the FCC now. By year-end we expect all of Verizon to be covered by 271s. We expect Qwest to have 271s in all but one or two states (Minnesota and Arizona being the ones we expect to lag). We expect BellSouth to have all its 271s except Florida. Finally, we expect SBC to add California late in 2002, but do not believe the Ameritech states will get their 271s until the first half of 2003.
- As part of the 271 process, UNE rates since May have been reduced in many states, most notably in the Qwest Region, but also in SBC and BellSouth states. We expect some more UNE reductions (Massachusetts, New Jersey and Pennsylvania are pending for Verizon, for example) but expect the pace to slow given how much UNE rates have decreased and given that the 271 process that drives some of the cuts is nearing its end.
- For the CLECs, the lower UNE rates present the opportunity to enter the local market with minimal up-front investment. It is not clear, however, whether some of the more troubled companies, like WorldCom, will be able to take full advantage. We view UNEP as being positive for the IXCs, particularly AT&T, but do not believe that it is enough to stem the declining revenues and profitability of the consumer long-distance market.
- From the RBOC-investor's perspective, UNEP presents several problems. One is the reduction in revenues that comes from converting retail to wholesale revenues. The other is the pricing compression that comes from the RBOCs' own attempts to restructure their prices to compete with the new entrants. Finally, there is the exposure during a period when an RBOC cannot yet enter long-distance, but the IXCs have begun to enter its local market. Among the RBOCs, SBC is by far the most exposed. In California and in the Ameritech states, it has super-low UNEP prices and no ability to counter an IXC's entry with an all-distance plan. It is possible that Verizon will also see some meaningful share loss in the next few months, but we do not see the IXCs being as focused on it as they are on SBC, particularly in California.

TABLE OF CONTENTS

THE	STATUS OF 271 AND UNE-PLATFORM IN THE REGIONAL BELLS' TERRITORIES	:
Аря	DENDING SUMMARY OF CHANGES TO UNEP REPORT, MAY TO AUGUST, 2002	-
Sun	AMARY OF RBOC CHANGES	8
Co:	MPANIES MENTIONED IN THIS REPORT	()
IN	DEX OF EXHIBITS	
1:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - ALL RBOCS	0
1A:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - ALL RBOCS 1	. 1
2:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - BELLSOUTH 1	2
2A:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - BELLSOUTH 1	3
3:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - QWEST	4
3A:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - QWEST	5
4:	UNBUNDI ED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - SBC	6
4A:	UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - SBC	7

5: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - VERIZON....... 18

5A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - VERIZON. 19

The information contained nerve has been obtained from sources nerved to be reliable out well and but we do not warrant its confriences on accorda. You prices opinions and estimates confessed reflect our judenteen and are sometimes and estimates confessed reflect our judenteen and are sometimes to mange at any including notice. The obscument in the an otter of some without for the nurenay or sale of any securities of financial motiving it and it does not constitute investment, legal or tax. The control of the co characteristics necessarily a guide to indicative of or a lumino of future performance. Securities and financial accuments mentioned nervin may not be qualified for sale in attes. Commerce canna Manets line or one of its est directors attribute or empirices na naive positions or large actions accounted to financial instruments. Securities of financial instruments science defining and may ass as an underwriter miscenieni agent advisor or lender to an is also mentioned nervin. Additional information relative to the schools discussed is available in our offices. Commerce is all Market, inc. is a whole lowned non-bank sunsidian in our office in the Market, inc. is a whole lowned non-bank sunsidian so state. On A office of Rancord, and a multi-hank holding contains to detect the Cherry Hill. N.

65. Commerce Capital Markets Inc. Philadelphia. PA



Strong Buy

Outperform market near-term and long-term by over 10%

Market Outperform

Outperform market long-term by over 10%

Market Perform

-5%

Perform in-line with market (+ or

Market Underperform Underperform market by over 10%

THE STATUS OF 271 AND UNE-PLATFORM IN HER. IN A BELLS' TERRITORIES

Over three months have passed since we last published our report "The Status of 271 and UNE-Platform in the Regional Bells' Territories". Given the recent flood of 271 filings with the FCC and the concomitant changes to UNE-Platform (UNEP) rates made by individual state commissions, we thought it timely to provide an update.

- The flood of applications for in-Region long distance entry under section 271 of the Telecom Act (271) is reaching its crest. Fourteen 271s have been granted to the Regional Bells (RBOCs) so far, and the FCC has applications for seventeen more before it right now: Alabama, Kentucky, Mississippi, North Carolina and South Carolina for BellSouth; Colorado, Idaho, Iowa, Nebraska, North Dakota, Montana, Utah, Washington, and Wyoming for Qwest; New Hampshire, Delaware, and Virginia for Verizon.
- By year-end 2002, we expect 271s to cover all BellSouth states except Florida, all Qwest states except Minnesota and possibly Arizona, and all Verizon states. SBC has a good chance of having California granted by year-end, and a slight chance of having Michigan granted as well, with the rest of the Ameritech states likely to slip into the first half of 2003.
- As the RBOCs have prepared to submit their 271s, they and their state commissions have made changes to their unbundled network element (UNE) prices. While commissions do occasionally change UNE prices independently of the 271 process—as New York did earlier this year and as Massachusetts, New Jersey, Texas and Pennsylvania are doing now—most changes have been made as part of the 271 process. Thus, both because UNE rates have been lowered sharply in most states over the last year and because the 271 process is ending, we expect a slower rate of change to UNE prices over the next year or two than we have seen in the last few months.
- The actual implementation of UNEP accelerated in the last few months, as competitive carriers (CLECs) have focused more on this market. WorldCom's MCI division, in partnership with Z-Tel launched its Neighborhood Plan in April. AT&T has added local UNEP-based service in six states to its original two since March of 2002 and will probably add another two states this year. In early 2002, AT&T was offering UNEP-based local service only in New York and Texas. Since March, it has added Michigan, Georgia, Illinois, Ohio, California, and New Jersey. It has indicated that it will also enter Pennsylvania and Massachusetts this year. We expect it to push hard in California, where it will fight hardest to protect its long-distance market. WorldCom's MCI division introduced its Neighborhood plan in April and appeared ready to pursue entry in at least the urban zones throughout most of the country. Entry by these long-distance carriers (IXCs) has been partly in response to potential entry by the RBOCs into the long distance market in a given state and partly in response to lower UNE prices. Given the financial problems at WorldCom and the changes in AT&T's structure and management as it merges its Broadband

unit with Comeast it is somewhat difficult to predict how hard they will push INEP. We expect some backing off on WorldCom's part, and a harder push in a small number of states on AT&T's.

- At least in theory, the greatest exposure to changes in UNE prices is to SBC AT&T just began deploying UNEP in California, where SBC will not be able to respond on the long-distance side till around year-end 2002, at best. AT&I is also in Michigan. Illinois, and Ohio, where it is unlikely that SBC will be able to respond on the long-distance side till sometime in the first half of 2003. As we indicate below, UNEP discounts are greatest overall in the SBC Region. BellSouth is seeing UNEP-based entry primarily in Georgia and Florida, but AT&T has not yet entered Florida. Florida is the only state in which we do not expect BellSouth to have a 271 till late first quarter 2003. Qwest's rates have recently dropped in a number of states, so that the Regional average UNEP rate has dropped from \$28.21 to \$23.97. However, we do not believe that entry into Owest's territory is a high priority for the IXCs at any price. Verizon's rate at \$20.23 is the second lowest on a Regional basis, but that rate is relatively stable vs. May of 2002. It is also worth noting that Verizon has not lost much market share since rates in New York were lowered in January. AT&T has indicated that it will enter Pennsylvania and Massachusetts this year, but neither the timing nor the level of effort in those states is clear to us.
- The Supreme Court has affirmed the FCC's right to designate TELRIC (Total Element Long Run Incremental Cost) as the methodology by which UNE prices are set. More broadly, in its May 2002 Verizon Communications v. FCC decision, the Supreme Court appeared to affirm the FCC's right to designate any method other than rate-of-return, which is specifically precluded by the Telecom Act, for the purpose of setting UNE prices.
- The long-term survival of UNEP is, nevertheless, in question. In its May 2002 Verizon decision, the Supreme Court reaffirmed the "necessary and impair" standard, which it had already highlighted in its January 1999 Iowa Utilities Board v. FCC decision. On May 24th, in its USTA v. FCC decision, the D.C. Circuit of Appeals remanded to the FCC the 1999 UNE order in which the FCC attempted to refine the list of required UNEs in accordance with the Supreme Court's "necessary and impair" standard. The D.C. Circuit also vacated the FCC's line-sharing order. The FCC has appealed back to the full D.C. Circuit some aspects of the court's decision.
- All of these judicial decisions will have an impact on the triennial review which was initiated by the FCC in December of 2001 to decide which UNEs still meet the "necessary and impair" test. The triennial review was expected to conclude this year. If the D.C. Circuit does accept the FCC's appeal, we believe it is unlikely that the FCC will issue an order in the triennial review till after the court rules, most likely some time next spring. Aside from delaying the conclusion, the various court decisions are likely to drive the FCC toward a more granular analysis than it had done in the past. That was the bent of the current FCC anyway, but the D.C. decision reinforces it. For example, we would not be surprised to see switching removed as an element in some

markets fairly quickly and in others over some longer transition period. Other elements also might be removed over time in some geographic and customer markets. If the FCC decides to take granularity down to the wire-center level, it may leave actual implementation in the hands of the states, but with fairly tight rules to guide that implementation. In the context of UNEP, what is significant about the removal of an individual element is that it makes it necessary for the CLEC to do some work to reassemble the line when it inserts its own equipment. That will make it more difficult to move large numbers of customers rapidly. Thus, the timing and outcome of the triennial review is very important both to the CLECs/IXCs who use UNEP and to the RBOCs who are wholesaling lines to those CLECs IXCs at deep discounts.

- The actual financial impact of UNEP on either the RBOCs or their competitors is, of course, what investors care about. Unfortunately, it is difficult to quantify because it depends so much on the companies' strategies. The more CLECs are able to cream-skim in a given market, the better their own margins and the greater the damage to the RBOC. The CLECs' ability to cream-skim, in turn, depends not only on the CLECs' own strategies, but on the RBOCs' win-back efforts, which often include the introduction of new pricing plans and the RBOCs' ability to offer all-distance plans. Thus, damage to the RBOCs' financials comes not only from the conversion of retail revenues to wholesale revenues, but from a broader repricing in response to competition. The offset from long distance appears to be fairly minor, at this point. Although ultimately all-distance customers may be "stickier" than those who use only one service, initially both sides are likely to spend more on marketing to fight churn than they did before.
- Our May 1, 2002 report included one effort at such an analysis. It found that UNEP creates a discount of about 19% to 42% below retail residential revenue. Using the same retail rates, those discounts would now range from 24% to Another way to look at the issue is to use the FCC's rate reference 50% a. book, which relies, in turn, on TNS bill-harvesting data. According to this data, average residential spending per household on local service is \$426 per year and on long-distance \$176 per year. Assuming 1.2 lines per household, that would equate to about \$30 per line in local revenue plus about \$4 per line in access charges for a total revenue per line of about \$33-\$34. That figure falls within the range of \$30-\$34 for retail consumer revenue that we had estimated in May, although both calculations present potential problems. For the TNS data, specifically, it is not clear whether taxes and Universal Service Fund contributions which an RBOC would simply pass through to the government are included in the revenue. With that caveat, we are using \$33.50 as a national average residential rate. That leads to UNEP discounts on a Region-wide basis of 27% in BellSouth, 28% in Qwest, 48% in SBC, and 40% in Verizon. The TNS numbers also indicate that the RBOC would need to gain more than three long-distance customers to make up for the revenues from any local customer it loses (\$474 of local plus access revenue vs. \$128 of longdistance revenue net of access). And-given the different margin structures of the industries--it needs more than that to make up for the lost cash flow. Of course, to the extent that an IXC can capture small business customers whose



..

retail spending is higher than that of consumers, the damage to the RBOC is greater. For some time, at least, while the industry restructures itself into an "all distance" market, the UNEP vs. 271 game is likely to be "negative-sum," with both the RBOCs' and IXCs' profits hurt by lower revenue and higher marketing costs.

APPENDIX

$S_{\rm constant} = \{ (-\infty, \infty) \in X \mid P(R^{\rm obs}) \in N(N^{\rm obs}) \mid N < \infty \} \geq 2 + 2$

Changes in methodology and corrections of errors:

- We changed our MOU (minutes of use) assumption from 1200 to 1411, to account for toll minutes, based on footnote 252 of the FCC's Pennsylvania order.
- For the columns that calculate full UNEP based on DFM (dial-equipment minutes), there is no change. Thus, for comparison, we are showing full UNEP based on DEM for both May and August in our tables.
- We corrected an error in the formula that calculated amortized non-recurring charges for Verizon's MA, NH, NY, DE, PA. For NV, KS, MO, OK and TX, we now have some non-recurring charges that we did not have in our last iteration. For Maryland, we are no longer using the compliance rates that we used in May. Statewide loop rate averages charged in several BellSouth, Owest and Verizon states, though the actual rates did not, based on new estimates of the distributions of lines per zone; KY, LA, MS, SC, NM, ME, RI, PA.
- Once we assemble our data, we ask all the relevant state commissions. RBOCs and the two major IXCs to comment on its accuracy. We received specific feedback on the accuracy of our tables from all the RBOCs and many states.

Same and the state of the second

- UNE prices continue to trend down.
- For all RBOCs the full UNEP average (assuming DEM) dropped by 10% from that which we reported in May
- On a national basis, full UNEP average (assuming DEM) now stands at \$20.28 vs. the \$22.58 average we reported in May.
- The range is a high of \$24.38 for BellSouth and a low of \$17.50 for \$BC, within the range we predicted in our May report.
- SBC experienced a roughly 20% decline (with an even sharper decline in California) and Qwest experienced a roughly 15% decline in full UNEP (DEM) average since our May report.
- The RBOC-wide total switching and transport average dropped 21%, from the \$8.34 we reported in May to \$6.59 in August.
- Several states' full UNEP (DEM) price appear to increase or actually increased from that which we reported in May. In some cases, as noted above, we changed the non-recurring formula. In some cases we changed the distribution

of loops among zones, thus changing the average. In a few cases, rates actually rose. In Al., FL, LA, MS and SC, there is now a cross-connect charge that is part of the non-recurring charges that we amortize. In Oregon, the port rate increased slightly.

Companies Mexicon in Turk Report

Company Name	Symbol	<u>Price</u>
BellSouth	BLS	\$25.44
SBC	SBC	\$27.89
Qwest	Q	\$2.82
Verizon	VZ	\$31.18
AT&I	<u>.I.</u>	\$11.79
WorldCom's MCI	WCOŁQ	\$0.12
Z-Tel	ZTEL	\$1.44
Comcast	CMCSK	\$22.99
Dow Jones Industrial	DЛА	8.887.87
S&P 500 Stock Index	SPX	941.06

	#1#1S			ĹN	Val	Vd	DC.	.)([LN	1.4	1.4
	44.0 j			Cs 6\$	h7 45	5 i 5 5	00.05	90 B\$	VI 111	r: -15	P1 515
	2121 <u>5</u>			1 M	AM	1.M	101	40	1 11	1 W	1 W
	4 2iji			No FeS	, X 0 , S	či 61 3	69 05	99.08	(1)(1)	71107	(1) 173
BLLE A H. AVER ROW		54'116	59.25	56 715	11.65	51 45	+7 U\$	77 05	11 775	75 075	61 611
	21212				AN 1690	AN 65.55	#C2.1 70.07	10.03 20.03	AN 86715	5N 11.71 5	AN 51713
	44.0 j 43.815			67 (13 118	VK	65.23	118	11.7	AD E CA	VIX	HN
	Agili Attič			01.315	16 c13	p 4 0 (§	91.4	Ri Or	80 825	ch (ch	II.v
MARIX PARA		£81°61	5-17	76 715	11.85	ZV 95	1105	21 05	VI IZS	58 615	71 075
4 7 1 4 7 7	- ,,,,,			1.5	17	Vd	DC	ж	1.9	V 1	14
				0.63	10.42	50.55	00.0\$	00.05	51 L15	r(>1\$	71 515
	21418			1 11	1 11	M.A.	40	10	3.46	A W	Δ.1%
	4×ili			85 T.S	38.045	21.61\$	69.03	99.0\$	cs s ts	(110)	ረፀ ተቀዩ
Region of Ass.		176'77	%la	16 713	69 85	\$1°45	61.02	R1.05	(1) 173	17 07 5	18,912
	*1412			УK	SAM	2.3	OBS	OJS	AR.	8.4	8.8
	** I			69 1 13	S(-2 S	91.55	74.05	L = 0\$	t 0c\$	09 613	67.613
	žini <u>s</u>			NO .7 5 (\$	NO 57.85	70.81 2 31.0	N (1)	NO 01.15	90 15 5 5 \$	80 10 sc\$	88 45 3 90
	- 43/H	967'1	*↓0t	11.115	11.95	67 95	0):15	70'15	†1'775	19 173	t> 175
MARCHINS		706 - 1		X 1	V)	1)	1N V)	AN V.)	V.)	V.3	V.)
	w.⊕			16.63	11.95	FF >\$	80.05	80.07	87.91\$	9E 51\$	11165
	STers.			15	15	14	$\Delta N^{2}VO$	AN 'VJ	AN	ΔS	AN
	чви			C 0.5	Fc 115	20.015	80.05	80.05	#8 LL\$	19.053	95 01 5
रूप वर्गाता अभावस्त		100'61	%11	51 015	06.93	FS 55	¥0-0\$	¥0'05	\$1.415	11.515	15 475
	49812			{(O)	NI	NI	NI	41	NI	NI	DS
	₩0 I			10 . 3	58.15	17.13	10.05	co 0\$	nc 21\$	80 c13	05 713
	21410			1 //	TW	Γ ν	1.2/	Τ₩	Tik	<i>i</i> i 1	TW
	Ngall			06.013	, č. 13	3 (IFIS	06.5	ČX cX	79.565	>H t < \$	58163
AMBITH CH ROS		168,12	*. 81	17.65	77 95 \1	N1 N1	\$9.0 x	85.05	87.915 VI	17.515	71 915 DN
	21612			10.5	\%\1\	10.15	10.07	.0.05	00.015	50 - 15	05.8(\$
	31F15			15	15	1.4/	1 1/1	1 W	14	1.5	4.8
	High		_	C > 11C >	ts 145	1 0 1 5	00.5	CX 45	18115	17.013	25.015
3 c V sprudenija		811'85	5, nr	¥0.11 %	L9 98	16.27	04.02	55-05	01.815	05 615	t> 175
	31414			1	NA	INN	V1	¥I	11	1 1	30
	wo j			15.115	11.51	1111	#1 n2	911.03	59.0%	18.0%	ities
	23815			LIX	tts	CIS	80	ж	HX	LIX	150
				8613	ii c1 5	\$ 01 \$	51 O\$	07.02	NG 71.\$	19 11 \$	86.615
Mcgingwide Avg.		196,71	%71	09 915	\$8.77	16.95	11 01	0 t 0 S	85'775	7647 5 NT	17 975
	44412			\$ +3 55 c l \$	NT OURN	N1 11.58	.K.N 00:03	8 IV. 8 I-1 3	N1 80 61\$	88.072	06 0L3
	27815			SIA	.19	VD	11	11	242	SIA	IV
	#şill ?			nes	87.95	11.85	19.5	His	rind	.86.\$	60 915
3 r / apingmasah din		750°F7	%:1	21515	76 55	56'95	19.15	10.55	16 775	81 FZS	90 975
i iti manisa il din				JHS	\$ 10	.)185	7.5	/1	JBIS	DES	74
	*** 1			10.15	66.53	16.55	61.05	83.0%	UE NIS	05 7 13	18.61\$
	DOU			ħ.	71	7)	8.14	8 10	0	Sint	ก
···-	darit			09.913	Cr X3	10.42	19.15	70 😘	85 1 c \$	81.14.5	12.83
S JOHRHA 198	<u> </u>	115,074	% 001	FB 1 15	87.45	65'95	79.03	97 05	150.91	97.975 STV LOT	R2.552
			l	ST PM CAA							· · · · · · · · · · · · · · · · · · ·
					f i somuee# estudim yndantytto	is to enquezi. estuarar	1141 samuses estunim gaitenegito	fd til samuessi sotunim	itel esmases estuaim gaiteaisteo	te 141 on more t colonium	M 4(Leamuze). estunim
रावस्तात्र स्ट्राम् अवस्थितस्वयस्त	MT.	140001 S 1 S 1	54811	(y) u o w	ξ ψ μ μ ι ι μα	(qjunarjed)	Ц Б 0 (1)	(dinom rod)	OSHANIMBH	DEMINATION	LERVINALIN
		884) IV	47 101 10 %	1.001 1(73) 1001		PRODUCTION TO FOR	424) SERVIO 117	ячито 137	ONCOMPLYNISHO	ORIGINARIO AND	CRICINVITACY 4 4 N 1 1.14 2007 3 V 3N

Source & ontpoins Financial reports and regulators fluing including liviffs, underconnection agreements and ARAUS reports, CCAB estimated

1
=
~~
~/
_
_
<u>-</u>
_
1
~
_
_
_
-
-
<u>-</u>
-
-
, _'
**
_
_
-
Ţ.
-
,
- 1
- 1
ı
. [
[
_ [
_ [
$^{\prime}$
[
- 1

ABELL Recognistic Algebra	((4) table (4	FORTRALL	l real originating NW 114 HING sper MOU)	Total (Ciminaling SWIICHES) (per MOU)	SWITCHING AND LRANNORTHEN MOU	M t liper month	DIF (pc. month)	Other Switching and Liansport sper menchy	Other Switching and Transport (per month)	FEATI RE COST (per month)	AMORIIZED NRC ipes month	101 Al DEM (per line, per month)
	j					Vivanies [4]] originaling minutes	Accument DFM minutes	Security [11] originaling minutes	Vectories DFM			
A comment And Discovery			AFY INPE IS					3				
C THE REST.		\$2.02	59 1101 66 1	\$4 041547	\$40 004675	SF 85	KH 13	\$0.05	50.87	11 113		
	High Sinker	?	CO DI TEX	na), au ir\$	\$4 00 JOSE	\$1.16	11 11	\$1.16	11 13	10.03	7 13	2,171
	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ž :	> .	>	9	√ <u>∓</u>	844.8	>	ح	· × Ξ	-	
		<u> </u>	- 15	\$11ab 1 3	\$0 (HHD (1)	\$0 DK	¥0 0 \$	16.03	10 54	o, v 1	£1 0 3	1871
Bellsouth Rezponside Ave.		17.13	151190 05	15 Hill 83	\$ 000 21 7	91.15	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	S E 8	/./	7.7	0.47	`^
		E .3	\$0.001868	Ser no FRAK	\$4.00078.1	>1 . 3	16.5	81 IS	21.18) a p.	11 87	1,168
	low \$12.55	; <u>;</u>	7 - C	7	**	Ξ	<u>_</u>	, , , , , , , , , , , , , , , , , , ,	Ź	=	ž	E VII
		2	7	10 mm pt	*0 000 p4	## : 4 *	<u> </u>	\$0.5R			\$0.06	2.744
Oresi Regions ide Arg	\$14.60	17 17	132100.03	\$4 00173	\$4 001036	01 H.	\$4 28	\$1.46	N 13	ALC:A KYLA.	Y Y	A S
		74. 4	for DH1 :e,u	\$0 th 1369	101 100 03	71.12	\$0.46	\$1.81	\$1.66	1.17	: :: ::	1 917
	-		(15	9	Z .	MNNDON	Î	Z ¥	N N	Ξ	310	2
		; <u>-</u>	J. 1	\$0 000000	\$0.000721	su su	\$0 to \$	F0 13	to Ri	S to 1H1	\$0 00	100 ;
NAI Regionalde tve		£ 73	51100 at	051100 05	\$4 000 a2	1 2	-	P2	7	COLVEDIAN	MA	(1)
) <u>1</u>	61 . THE 61	\$4.00.559	£01 500 ct3	90 1	7 7	×0 14	TR CS	\$0.29	12.03	1,974
	State N.	'n.	£	ź	2	7E 5 08 18	<u>.</u>			E - 5		2,786
		\$0 88	\$11 ARRESTOR	\$0 monation	001000		# 3 3		41 E	§</th <th>- i</th> <th>AK .</th>	- i	AK .
ANGERTH CITIF CREE	Mark OH	-	4	<u>4</u>	3.1	OWNAND	0.4.4.40	<u>*</u>	- -	TA DO NO VI	<u> </u>	- 764
	Hurb	PZ 7.4	541 (1881) 156 541 (1881) 156	\$1 000 US	Cd 904810	CO 27	\$0.20	\$1.14	10 C	\$41.00	\$1.02	90,6
			71:160.03	212 100 14	\$4 004 117	\$1: -3	\$6.27	71.13	41 18	6.1	1	100 1
	_		bicollectos.	to Breton	A. 1	- i	Ĕ,	 *	N-I	e 11	13.	Ho
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	j	MI	<u></u>	<u>2</u>	X. X	= <u>Z</u>	<u> </u>	; 3	#	E 12	1 0 1 3	1 36.1
CONTRACTOR OF THE CONTRACTOR O	31011	\$6.0X	Su not 183	Set for the	\$1.001016	KB 118	\$0.00	\$1.46	\$1 0.7	10 AK	7 N	= =
		7 - T	\$0 redecto	fn eetala	Bar 500 p3	K 4	6.0	13.61	.5.51	\$15.03	10 03	10.1
		, a	12	2	<u>ئ</u> ر	7	e =	λV	27	۲)	VA. A.	-
			4 Total	1000	11 million 03	÷ ±	<u>.</u>	÷ ;	\$10.08	\$10.410	to ot	1 386
SWRI Pepun Ng	~	\$2.68	Set to 116.88	\$4 001688	\$4 (644) 145	6 R 67	6 5 5 E	< ;	٧.	٧٠.	14.44	> \ \
		Ĺ	FI (III) 3 (3)	2) (110 H)	\$0.00m3R9	\$11 dis.	, a 1 5	29.03	10.07	to an	17 00	57.7
	Ac. 5	£.	É	ź	÷,	VR, KS, CIK, TX	N.R.	; €	<u></u>		1	
		7 4 2 4	ries I du it.	\$1 July 196	an Little U	\$11.00	\$c 00	f u 13	K1 13	- to 04	\$1 to	¥ į
Veryon Regionwide tve		F. 13	VI 1042.57.5	VH R S	1.V	OF S	NO	1	×-	p 4	<u> </u>	2
	-	-	Cu natalian	. 9500 PS	015100-03		51 PA	7. 7.	\$0 <6	\$6.20	1163	1.871
		2	·x	7.3	- F	: <u>-</u>	2	<u>`</u>	5 :	<u> </u>	<i>5</i>	14. 1
	~	; 3	Ku doll 1	111111111111111111111111111111111111111	\$0.004167	\$0 00	2 0 00	\$0 53	. j	0 5	E 5	> :
SALA MARSA NIVAN	I	= 2	5	X 2	1.4	NY BI	N.Y. +14	VA.	2	A VALUE OF	21.4.7.19	<u> </u>
	1	17.7	70 (30) X (5	\$4.00 (An.	\$8 000R74	5 H B	\$0.03	11 14	56 BS	113	\$4.09	806
•		, , , ,	a del tela con	1001-10-14	60 041 4 in	5.3	1 0 14	11:3	51.13	11 13	y1 1/ 3	7.009
	-	<u>-</u>	211100 63	7. Co of 11.	VIV.	Z	Ξ :	۲,	VIV.	H	15.4	72
	State NY	IV.	2.8	2	2	2	9 ×	2	5 0.61	, o	6 11.58	s; *
MILL ALCAN HIG Region Avg		\$1.15	\$0.00,1144	\$4.602541	50 000251	10.09	7 85	2 5	2 2 2 X	77 77	12.12	N.
÷ ;	~	16.3	\$21 (11) \$3 (2)	\$0.00 %	\$69000 03	1101	20 63	20 43	\$40.20 \$40.20	71 II.	=======================================	1 112
κι -		를	7.17	N. V.	Ä	U. W.V	>.\ 	ž	: A	<u> </u>	f <u>1</u>	
	State State	Ξ ½	Conflat.	\$19100 of	\$0 000 P	00 03	\$0.00	1. 03	50 Fe	184 Hg	<u> </u>	»: [2] \$. [2]
			1.1	1.1	V.A	11)	ĭ	٧,٧	2	7 = 3	2.8.1.20	-

19199889 [

anifora) di	834	Set :	. 14	15 (1)	-1.95	. K 'Y .	80 .5	9 c l 3	P/ 1.5	xs his	16.965
	i .			11 915							
				0.618							
	1			7. O.X							
kanlota) alt	8.1	1.1.	01	N. 115	*/ 'Y	t**/ \	0 y	/ (13	911 00\$	60 1 (3	un (🔾
	t			X11.1.1.5							
	1			TO 11.3							
				tr ins							
				80 0 J.z.							
eddissis	1.7		···	. 1 }	06.53	8. 75	10 3	X: 3	21.60\$	(8.6.1	10 6.3
	1			ማር ዋተኝ							
				101.553							
	1			, 18							
40411	2.11	<u> </u>	1.01	Pc 918	19.91	, B , Y	(0.) .	(c.)	613	:1) ()	71.565
	ì.		-	105 1913							
				/ E T 1 5							
(уэп)	4.0	atil	*13	PH 63	0.000	1.4					
14501				9. (15	10.88	15.9\$	66.05	60.13	97 E (\$	80.25 2	9116
	ı			18 615 (7 615							
				091.015							
rkis	al vV	511.5	*271	No. 615	19.95	11.85	4. 14	, ,			
				07.015			1: 15	ls ds	10.005	181(3	HELL
				68 5 15							
				11111							
₽ pi	850	# 1 > "	*212	55.51%	10.95	ss 9 \$	89.68	HIS	11. res		
	<u> </u>			59 113			3,13	11 (3	10 803	1050	81.953
				10.05							
	ı.			5 15							
H 444 Y 4	day	116	1.8	94.412	55.15	91.5\$	20.15	11.13	vis		. 13.41.4
				1 11/1/14		OTHIS			****	51V101	60 91\$
					estenim gattemigico	rojnujei	rotunim gnitenigere	>>) n ti til	rationism Anthematics	ra) n ur w	Palenim
					fill sammer 1444	Petil manners.	fill samues?	Mad ramaret	Hitleamner	MAG samuest	M40 man
		imints 45.14	SANLINSTERN	(U) 4 to in	(գյու-ա	(դյաստա					
311	8480Z UISN 10	551333		1940 417 H 400 1	TRANSPORT (per	180322AH	(क्वाकल्स (स्वी भू साम स्व	7441841110-112 (Abrom	OBJUINCE FABRICATION OBJUING	OBICIANTIAC VAD	TERMINATING VAD
					INFOT	IVIOI			448 I 1114	#48.1-11.14	98117 SEPTIO - a 480 1451 7007 AVAN

81 n.18

N8 11-3

06.07

Source Company Financial reperts and regulators filings including facilis, mirection agreements and ARMAS reports (CAM estimates

81 DUS 91 115

-
=
-
1
_
_
_
_
· .
_
- 7
_
1
-
-
٠.
- :
ų
_
-
=
-
_
_
-
•
_
-
1
.
- 1
1
1
. !
- 1
- 1
,-I
. [
- 1
_
1

7,												
11414	LGOPRATE (per mands)	(OOFRALE for Pap) RALE for month	FOCAL ORIGINATING NATIFIED INC. Iper MOUT	FOCAL HENDATING SWILLHEN, SPOT MOUS	OTHER SWITCHISCAND TRANSFORT (per MOL)	bt k (per month).	IN Paper manifes	Cither Switching and Franchist thermonths	Other Switching and Transport (pr. month)	PPALLRE COSE	AMORTIZED NRT 1p. c. mende.	for At BFM (pre line, per manch)
						Assumes (4) }	Accumed DFM	Vermer 1483 originating manufes	Accomes DFM missies			
Alabama	 		AFT INFEE					18 78	St Bloth 1			
	1	<u>-</u>	G1 10:1 TH:	An Pent at	Not see to	. 3 (1)	7	¥: =;	50.80		4.5	##.
Plorida	(15 c) (11 c) (13 c) (13 c)	V - 1.	49, 10d IIX	Cr mill 'v.'	Verineban v	3	10.0	12.03	- K- F	91.5	VI I	1.06.0
e : <u>d</u> . 1, 4, 0 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	5 (1) 55 (1) 10 No	67-13	VO 00113.3	CD (Interes	SO OBITSSO	, Le	Br.O	97.03	=	Kn 981	5 T D3	. S -
h entucks	41.3.46 48.61.1 41.8.13 40.0.3	(1)	. 2110	VII and 11%.	Chemony	5.53	1. 1.	01.15	- F	Kring	Sone	ei e
P I I I I I I I I I I I I I I I I I I I	5 BB	5 -	Still Row	Co mil Vex	Air denii 164	भारत	()	KII KA	\$ to x	Холя	- e	1001
udhanah	75.75 China 15.41 China 14.82		An antho co	VP 001357	Co many is	(4.0)	; 0 - 7	7. 13	Λ: R.1		S 1 83	
THICK THE STATE OF	(11 (K) (11 (K)	* :	Cartery and	धा स्टा सा	194 JUH 194	Ne sy	(1 I)	, uy	2 a a 2	Çe mi	, tu y .	He.
	17 47 A 18 C 19 4 B 18 C 19 C	÷	Security of	An faith is s	Vir ongress.	10 03		- F	CH 0/2		X X	1ster
Some	CHAIN		TENEDO PE	Vormuko I	Cn 140m3 t.	ka 0x	\$1.36	50 e.j	\$0 K:	Ku na	7 de 157	* 11 %
THE PROPERTY OF THE PARTY OF TH	Transfer and a second						i this this					7

Company Financial reports and regulators filmgs including tariffs, interconnection agreements and ARMIS reports, CCMI estimates

	18 380000 8 4 8 F F 8 8 8 F F F F F F F F F F F F F F			10171 SWITTHEW VOE SWITTHEW (bc)	month) 18 Vestant a toct 20 V 20 HO HIVC 10 I VI	भ न [10-1] / रमेरमच्छा प्रमुख	(11 O FILER (11 O FILER	ONITA NUMBER OF STREET	JEBBBJAVEINE OBICHVIINE VAN ELLLINES	DRIVITARIO DE CONTRACTORIO DE
				k sammer/ retunien gniscetzin	1/2 (4) ramuer/. raturim	[44] somnes/ gnitanigero sasunim	M 4tt romuses rotunien	1424 samusse salvnim gnitsnigito	3d 4 (Lzomusz) sasznim	otumim tā 441 zoznussē
.00.1 dig	(00.1	1011	1 1451 (49	50.01 5	- <u>- 08 85</u> 1 O I H I S	91 0 3 8 18	<u> </u>	96.96	86 F.3 STV (01	(9.4f\$
<u>.</u>			07 (43 4 (13 16 (3)							
lso i day	050 /	1,91	16.5 5	<u> </u>	ور ان	<u> </u>	<u> </u>		<u> </u>	>01.3
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			77 (11)			***				<u></u>
ë 	\ X \	و ۳	10 ft 5 18 5 f 5 20 7 3	ko 95	26.53	05.03		28 453	28.963	F i 515
1 10	791	<u> </u>	75.01 3 76.01 3		18.25	\$1.07	81.07		<u> </u>	
¥ (09.5 \$ L.3.15							
415			15.758 15.758	81.25	68.42	<u>cu 10</u>	<u>\$1.0\$</u>			10213
1		•	81 115 21 . 13							
102 / HN	<u></u>		363.3	داه غد	<u>4 [U] }</u>	<u></u>	<u>دی دا</u>	<u> </u>	12.713	## 017
• 1			4 (; , 3 07 (3 ; 3 0 ; 3 ; 5							
802 4/3	<u> </u>	<u> </u>	0.00.X		78.87	- 11/11	11.67	12.9.3	22255	03 017
<u>.</u>			0 - 29 5 5 - 21 5							
1. 1. 4. y.	<u> </u>		۱۱۱ - ۱۱ <u>۱ - ۱</u> ـــــ <u>ـدا ننبـــــ</u> ــــــــــــــــــــــــــــــ	1133	1111	<u> </u>		<u> </u>	<u>0,71</u>	ديدها
4xx	<u></u>		1: 9:5 0: 0:5	<u> </u>	<u>ां तेत्रात्र</u>	<u></u>	<u> </u>	26.953	<u></u>	
į			(6 f.) X. f.)							
3/4			90 5 1 \$ 27 95 \$		<u>05.95</u>	34 Q 3	92 03		4,1,2	
1			0.90 \$ 0.50 \$							
Ac day			7 (315 10 / 15 60 1-5		5 <u>-</u> 011	(0.1)				BSB
47	9711	- <u>- u</u>	/11/15	26.93	20 Kc	<u> </u>	> 93	22 963	1245	67 657
प्रकारक प्रकारकार्याः संस्था			.1645 58345 7345							
19 × 3/1	<u>+12 </u>	<u> </u>	2011 2011:	48.22	98.55	92.93	<u> </u>	RT 0.3	<u> </u>	00 1:1

source Company Financial reports, and regulator films including manacian agreements and ARABS reports. CCAM estimates

) Hill

Janus i M

W.

_
- 1
-
7
Ĉ
~
_
_
-
_
1
-
=
-
_
-
_
_
·_
-
_
_
_
_
_
_
_
_
-
_
_
_
<u> </u>
- 1
_
^]
- I
=
- 1

				311111							
1 00 p R V U (per month)	RATE RATE uper	Local originating SW-16 HING	Commeting VW [Tell]NG	SWITCHING AND TRANSPORT (per	DIE sper	but (per	Other Switching and I ransport (per	Other Switching and Transport (per	PEATURE LOST (per	AMORITED	TOTAL DEM
	-	(ber MOC.	(bet Mot)	MOU	m.eth)	an a dha	ter on th j	month)	month	NR((per manth)	finel
					Accumental 1111 ariginating manufer	Avenue DFM minutes	Assumes [4]]	Assumes DFM			
		121	2.1				.				
) X X X	*	Ver 15 (17.18.18.18.18.18.18.18.18.18.18.18.18.18.	Ser Bell State Chines Ann	46 F0 10 10	93 113	44.113	¥ 15	SURTOTALS	00 11		
# E E E								-		Ē	
7X 2.2	1.4	\$5.500.00	\$6.00.216	(a hagasa	1 1 1	1.5					
18 (1 3					-			= =	ρυ σ	ָּנְשְּׁ וְּנַ	111,
F 9.3	1111	<u> </u>	\$6.00.51	50 660050	F. 10	74.93					
\$24.00 \$10.92 \$10.92					•	÷.	,	×c	5 n n n	נע וא	r Ber
416.17	الما الم	er nu us	£1.0.00 PX	<u> </u>	<u> </u>	የብ ሰን	11.11	4444	W 100		22.
11 12 13										*	200
78 X 1	ر. <u>نالة</u>	לט מעוצייט	<u> </u>	C B 00110	4T 177	51 BZ	18.3	27/13	ያለ ሰስ	20 03	U) a a
20 mm		**									-
80 Les	62.2	P C ALCHARA					-				
# # # # # # # # # # # # # # # # # # #				C. 25	y 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	11 03	 - - 	4	रंग रा	۲۵ کا د	# #
1		KA 501089	रम् व्यान्यक्षेत्र	6 r 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	81, 83	\$11.10	6.4	ti 11	90 93	<u>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1) </u>	144
562 40 \$62 40	ļ										:
, , , , , , , , , , , , , , , , , , ,	*	ኛስ በብተጠጀ	\$11.00 118	50 66671	11 43	\$ U \$	(I) . A	לעצו	68.80	¢7 13	
\$20 to \$										<u>.</u>	
\$5 m 38 \$10 038 \$2 m 038 \$6 853		रेष वर्षे होतर	את מונה בדר	देतं द्याप्तिक रे	K fi Ta	KB 46	1, 1,	, tl «/	វ ก กก	XI UX	7147
\$1 ¢ 100 \$1 \$ 100	1	10 001110	Vii 60 110	37 T 66 G	24.87	11 03	¥1 66	41.14	90.3	71 UX	
\$24.20 \$46.3											
27.07	I M	\$4 60x17A	Vir 661163	A8 T AA AA	34.83	ע אַנּע	ST RE	\$1.17	20 03	¥1 D3	100.
\$18 C4 \$20.87											
	F (2)	इति विकासकत	56 666466	รล สิกิสหลาก	11 is	21.93	9č 13	(1)	76.13	געשע	1
1	5 20										:
1 4		रम कता भाव	כע נען אינע	<u> </u>	ሳኔ ሁኔ	61.03	4 (1	גו גע	5H BH	<u> </u>	171
·											
5 . 36											
9 to 8											
10 013 43 143	1,47	40 001841	בני עני אב:	C. C. G.	\$1.03	24.43	14.1		<u>. </u>	# 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<u> </u>
16 42 5 \$26 44								:		ž	-
51012											

ompony Financial reports and regulators filings including tariffs, interconnection agreements and ARMIS reports, CCMI estimates

				 			_
713(AND MARK STREET, NO STANDARD OF THE	! I . II	1 ;	i	:		- 1

	पटाच्यासात्ताः - पश्चरम्माः - डॅंड्रस्ट मुप्तसः	w	*.*1	99 8 1 \$ 1 1 4 1 \$							
	ent.	X: 1 111	*.*1	50.405	91.45	<u> </u>	pc 15	rt is	17.1.4	<u></u>	91.16%
	neg mgn			19115							
	ard m			L . 15							
	See blac	بارا	<u>'''</u>	1. 215.	51 HS	₹0 % \$	(1.15	01.15	15.563	10 561	WW 14.5
	16.101			10.91%							
	araj angus			19.875							
	· · · · · · · · · · · · · · · · · · ·			3.5.678							
	6 1 P P W			61 - }		91.73	(1.9)	4005		4. 113	1711)
	Discrete Co.			11 1 5							
	** B C . 311			98 - 5							
	die blac	1411	· .	11.1.3	4, 4	9.39	03.15	51.1\$	51.0.5	1017 6 1 %	68.613
	3.3 () 2.5 Hu.			20.00							41.4(1)
	en m			18 3							
	size bin	. 9-1		601.3	5. 55	4.55	5C1\$	96.1	.1.0.		
प्रिकृत स्वर्थक सम्बद्धा						.,		<i>*</i> ,	11.11.3	96 613	. N to 1 %
	City:			Sec. 3918							
	- Karilli			17							
	dis pin	<u> </u>	. 5.1	C 11(3)	1.115	. u o . \$	XB 03	NO 45			
	1			19.615			2.22	10.03	18115	12.017	P = 01 }
				4							
w)	ave bla	(19 x)	1	KC K3	. 115						
1 Han 190					2.95	1.5 4	8 II 18%	80 m	X. 215	91.515	48.613
	,8100			06.0.5		<u></u>		· · · · · · · · · · · · · · · · · · ·			
	மாழார்: கிரா நுக	ro.		06-015			.1				
	riid			06 01 \$	1. 115	E1015	UG + \$	(8.5)	.05.3	. N. 1 c. 5	58.1.3
	urginges			10.15							
	ribeq in			10 >\$							
	SITE STA	unt t	***	10 (1	0× (5		\$4 U S	65.03	51.51%	16115	96 115
	actioners			15 (15							
	orgoni			¿ 1" %\$							
	gie bin	n(45	100	41.015	11.15	60 15	d\ 4\$	\$0.5c	911.513	05-133	85 FTA
	remores			110 85							
	оцени			√ ¥\$ (∪ #\$							
	#18 PIW	461 (*xF	.1.115		37.15	30.05	(0.0)	u, , ()		
	P101			er Li s					0, (1)	50.13	7 K 41 J
	Tellinges 104,044			.0.5							
	Fre jum	al.	*** I	1505	44	96.5\$					
4251171							16:05	11.05	¥: 91\$	l× → l\$	40 513
				1.1921.3.13		IV LOTH IS	8.1			Sivioi	
					1141 esmineest. estimm gailtearging	Musical Marie Commercial	fikl esmuses. estunim gaitunizeto	Palaramer	[14] exmines. extrain gailenigese	MAG esmant.	P 4() esmuera estumen
	\$1807 \$1188.40	Squit S (NE) NO 1 3 23	SANII SALPA NTOLES	1965 417-31 3669 (. iff waren	wonig: ************************************	OVERCENCE INTO F POTAL CHANGE (PRO- INFORMATION	ALL DIMER (per	edinem	ONITYNBARTI BERTANDARO BELLIA BE	DAFFY VILVE UT OF STATE OF STA	11 (A)

r(x .

760.

698 |

170%

£97. [

(auil

1840 D-101

No or

(0.05

10.03

80.03

NKt ibei month)

rad, damone rag) (14 VII SULA)

भूर	1003 I 194) II # M (d) 10 0 35	(सटाय १९४१) न (देस । विद्यालया		्रातास्य स्थापन्यसम्बद्धाः स्थापन्यसम्बद्धाः स्थापन्यसम्बद्धाः । स्थापन्यसम्बद्धाः		१३ वृत्तः न मेरी (वैश्वाचना	।ऽदी <i>रिदे</i> र (सीसल्या	han gaidəli 42 sədisə səqətaqənsi f salana	िसम्बुलनेसैजनेस्थरे (वर्षीरी) प्रज्यो स्थायस्था । (वीस्थास	३व) १८()) २वे) १८())
						ltitaanin <i>eel</i> guidenigito ealmaini	sagniqui fic set sammes y	itil ssinneré eabhaint gnáthaigire	Leen mer e 13 f. Li Achtures	
Apatitamié)			.EUY	STAD	I		· · · · · · · · · · · · · · · · · · ·	11:15	\$10101	
s in the	***	60.5%	All	* 1	1 kenno n2	12.41%	1.0%	Pk 15	~ to 53%	103
	69.23 65.23									
	7 1 q 0									
Rrieth	t 85	4. AK	Ommany (cs.	nottonn ox	2 1900 о съ	. 0.05	10.03	78.05	100	<u>(1)</u>
	> C 35									
त≭ हो में श	66.85			· _ = = = = = = = = = = = = = = = = = =					· · · · · · · · · · · · · · · · · · ·	
	7 fr 88 91 (0) \$	1513	s.Bon/ n \	, ×000 05	825000-03	r., 11 \$	4.05		85.05	03
	TS (1% tz NS									
9)1	10 : 3	19.17	9, 4000 05	Stringing St.	00000000	11.05	11.03	11.7	76 H) U \
	741, \$ 86.5\$									
	∑ 5 h \$									
		50.95	611 Lovers	6.1.00.03	75, 100 05	11.05	9. US	<u> </u>	21.13	17 5
	06 BLY						:			
Had pilian)										
ata rold	81.83 30.03	88.05	soge from at	19913 - 211 19%	tradecus	405.0%	00.65	113	ain os	6.93

de as 95 0<u>3</u> 90 [5 66,000 03 ***** 523.3 66.03 90.15 SECTION DS 65 Dir 03 85 (. 10) 103 ********** 15.978 to bis ty X.Y 1. 315 00.03 1905 00.05 00.05 4660000000 6),10013 #1 11 X 19115 48.1.5 00.05 41.05 91 05 In 05 20.15 25.100/103 C.F. D. (10) ****** Tilis \$91.4 29.1.5 111 E - 03 00.05 11.03 91 of .015 90.15 161 00 CS Manager 11 St. A. Williams martine of 19.5 for L. S. ******** Half atales willing 1111 . 1194 19.0 10 03 1975 987 L

Source Company Unancid reports and copidany bibigs in biding unterempore and all MAS reports. (CM) estimates

EPE LAN

Legg Mason

30 8. S STEN F1 . 3

is inferconnection agreements and ARAIIS reports, CCAII estimates.	(เมฆุ ฮีเบยบุวเก เวียญมู (มิอุเยเลือน ยูเ	🕩 srioder ivienum ramodujo y 🧀 r	moc
--------------------------------------------------------------------	-------------------------------------------	----------------------------------	-----

word) word) word word the ment them and them and them and the antitudes and the antitudes and the antitudes and the antitudes and antitudes an	
11(1 somnes) gmisengino 1113 compset (d. 16 somnes) – gmisengne – Pedd somnesz – (d. 13 somnesz dd rsanaesz – volunia – solunia – solunia – solunia gwiengyr dd rsanaesz – solunia – solunia – solunia – solunia gwiengyr	
(O) V)	L LIN CIN
	SC WIN A COLUMN TO THE COLUMN
NOS 80-805 81-05 61-05 97-015 (6-215	Pacette CK9 100. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110. 110.
tas (15.5 keus vius 10.95 ii.i.)	10 915
(15 46 (15 80 05 80 05 05 51 95	5 5 15 4 5 5 15 5 16 5 17 5 18 5 18 5 18 5 18 5 18 5 18 5 18
6.5 (5.6.5 EP.05 (0.65 CC 55 95.95	
217.3 210.53 20.03 20.013 27.13	19 105
915 -2.0.5 00.05 00.05 (0.95 :6.65	NOIS 6101 DINVITY (14)
erz ifirz aanz en sz sa vz	9915 :: 115 : auts : 129
90 5 50 95 95 95 95 95 95 95 95 95 95 95 95 95	
51\$ 91 ct\$ (0.0\$ 01.0\$ 5555 t5.2\$	10 015 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ols 050x5 (105 u205 x/ys or 42	S. VIS
(c) 981,5 (c) (b) 15 (b) 15 (5 95 6)	00 n (
115 (5-15 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1.05 (1	01 115 (01 115 (85 1.5 (116 85) (118 118 118 118 118 118 118 118 118 11

meacomischon agreements and ARMIS reports, CCAH estimates	SHLDY Salmi ya Sumi	Companyoroma	vedu minor	e constant	
and makes ME VI attended 2018 M. Lane Manusconne and source seeding	зурага ошучула хошуу	i iai grante ca parte	мичам ромичи,	/ липашо у	i əəanov

	Opposite of the state of the st	mourp) EOKL	Bothengero le or I DZBDTLWZ (TGIV riq)		OTHER SWITCHISG ASD LEASEORT (PRO TOOLS	ाज्योः दुः।सा (स्रोधनाम	रज्याः ४ जिल्ला स्मृत्यालया	bins guidytenS volte) ragt tragans (1 (dlanm		(14)10038 (22d) [SO 2 dH H3 44	AMURTIZED NRC	440,48,000 (Aspum (Aspum
J		·			<u> </u>	ft) f sympszý gwienigi to zalvním	Assumes DFM	illi eagueed ealumm guilemgee	P34 sympsy sympa			
	~		TANI UIN	81	 			18	SIVIOJE			
	54 41% .F 1 15 11 41% 81 11%	to U\$	m#a4.006.0 2	D#ATOROUS	6 es 100 g s	1 0 0 1	g ⊈i U%s	91 -\$	811 IS	\ 00 □ \	11 05	(58.)
<u></u>	75 13 15 13 7 19 13	00 . \$	es: (1111 0\$	<u> </u>	01 S 100 B\$	ru o (ξα 0 \$	<u> </u>	24.1 %	n n o t	51.03	02413
331	00 \$ \ \$ 10 94\$ 26 11\$ 94 83\$	14.04	1500 <u>,</u> no 0 5	ЕзекДІНІ П \$	£5#000 a \$	11.05	51.0%	00 1 3	¥0 B\$	<u>0, nt</u>	10.93	£00°2
	15 514 15 145 06 25 65 115	13 S	<u>.11</u> [10] 0\$	11+100103	82500H U\$	H 0 \$	тиг 03		F3 0 3	1.0\$	80.05	016.1
	11 6 3 11 5 3 6 113 16 1 3	98 [1	154 100 US	ev £1ai∋ a ≹	1530000-03	10.04	Eu 44	0.11	X6:11\$	<u> </u>	un នូ វ	0 00 s
JUN III	27 1 (\$ 51 8\$. i i i \$ 13 1 (\$	10 11	माग्रहेल्स म्बू	επη τ 10ο π \$	Macadilli on	10.0\$	ξα D ή	14.15	11.15	अंग गई	<u> </u>	600 .
1000	TX Int S	93 I S	00s (3 to 04	nou₁ 0> 0\$	262000 HZ	80 IF \$	00.03	¥6 0 1	35 II \$	11 0 D\$	00 0\$	$\mathcal{L}(\Sigma)$
	79.94§ 14.14§ 20.04§ 50.44§	1. 53	15 20 001 UA	£ (6 (1113 0)	դուշնոն ոչ	EF-04	01.9%	¥ 0 \$	<u> </u>	₩₩ ₩ \$	45 0 \$	<u> </u>
	11 (15 96 (15 14 (15 18 815	Ut. [\$	lli x pag es	onggan n g	्वश्रुमिका (15	50 O S	ta et	4 s. u s	1.7° (1.5°	91. I š	<u> </u>	NSUŽ
	.0.01\$ 65.6\$.1.83 .5.6\$	t4 11 5	Sec. 1919 195	x 0 000 5	1543 min 184	fri 1r i	, ii 03	LC 0 1	9) 0\$	18 6) 12 5	00 H\$	154.1
	54 913 00 113 08 113 54 813 18 115	06 15	, unctean us	2 (4 (D)) 11 %	(F. (1Hb) 9)	60 0 \$	ξη 9 %	L : (1)\$	> 0 \$	lii ∪ io ≴	11 115	665 I
	03 n.3 51 985 8 c 013	0 <u>t</u> 1 \$	6. 1100 O\$	n.c 1,000 G \$	\$84000 P\$	60-01	ξ11 D 3	t v 01	£1 0 \$	UD 6 \$	9) 54	1 L K 1
	\$ 6 \ 5 \$ 10 \ \ 2 \$ 6 \$ \$ 1 \ \$	no 1 4	100000 05	, vs/m n š	9150000	£ (16 5	č1 9 3	9£ D\$	u _c 0\$	80 04	00 B\$	LLC.

RESEARCH DIRECTORY



Michael Viola (215) 282-3874	William Sutherland, Director of Research	(215) 282-4019
Richard A. Zimmerman (215) 282-4017 Ryan S. Zeichner (215) 282-8016	Michael Viola	
Ryan S. Zeichner	Retail: Specialty & Electronics	
Christopher M. Crooks. CFA (215) 282-4018 Dawn G. Moehn (215) 282-4014	Richard A. Zimmerman	(215) 282-4017
Christopher M. Crooks. CFA	Ryan S. Zeichner	(215) 282-8016
Dawn G. Moehn (215) 282-4014	Specialty Chemicals & Materials	
Telecommunications & Broadband Services	Christopher M. Crooks. CFA	(215) 282-4018
Anna Maria Kovacs, Ph.D., CFA	Dawn G. Moehn	(215) 282-4014
Kristin L. Burns. Ph.D. (617) 576-5764 Gregory S. Vitale (617) 576-5764 Telecommunications Equipment. Connectware & Network Security William R. Becklean, CFA (617) 576-5850 Michael Kern (617) 576-5848 Guojia Zhang (215) 282-8020 Administration Lizabeth-Anne Destefano (215) 282-3877 Institutional Sales & Trading	Telecommunications & Broadband Services	
Gregory S. Vitale	Anna Maria Kovaes, Ph.D., CFA	(617) 576-5764
Telecommunications Equipment. Connectware & Network Security William R. Becklean, CFA Michael Kern Guojia Zhang Administration Lizabeth-Anne DeStefano nstitutional Sales & Trading	Kristin L. Burns. Ph.D.	(617) 576-5764
William R. Becklean, CFA	Gregory S. Vitale	(617) 576-5764
Michael Kern Guojia Zhang Administration Lizabeth-Anne DeStefano nstitutional Sales & Trading	Telecommunications Equipment, Connectware &	& Network Security
Guojia Zhang (215) 282-8020 Administration Lizabeth-Anne DeStefano (215) 282-3877 Institutional Sales & Trading	William R. Becklean, CFA	(617) 576-5850
Administration Lizabeth-Anne DeStefano (215) 282-3877 nstitutional Sales & Trading	Michael Kern	(617) 576-5848
nstitutional Sales & Trading	Guojia Zhang	(215) 282-8020
nstitutional Sales & Trading	Administration	
	.lizabeth-Anne DeStefano	(215) 282-3877
(866) 519 6400	Institutional Sales & Trading	
		(866) 519 6400



SBC Communications, Inc. (SBC) Meeting with SBC CFO highlights key initiatives; no estimate or ratings change.

11:05 AM - August 22, 2	002
Market Outperformer	
Large-Cap Value	
Price: US\$28.11	

Stock data		Price performance	1M	3M 12M
52-week range	US\$47.34~23.30	Absolute	5% -1	L9% -35%
Yield	3.8%	Rel to S&P 500	-7% ·	-7% -17%
Capitalization		Forecasts/valuation	2002E	2003E
Market cap	U\$\$93.5bn	EPS*	US\$2.30	US\$2 30
Latest net debt/(cash)		GSCOPE EPS*	_	-
Free float		GSCOPE P/E		-
Shares outstanding	3325mn	 May differ from US GAAP 		

SBC considers fixing the UNE-P mess, as a prime corporate objective. Delayed LD entry in key locations, combined with the lowest UNE-P rates in the country, have uniquely exposed SBC to profit-eroding share loss. Despite this, SBC's CFO Randall Stephenson still sees stable cash flows through aggressive cost cutting, combined with the ability to maintain trends in share repurchases and dividend hikes. Consolidation in wireless is another key objective of SBC. Acknowledging the proliferation of conversations among wireless carriers, Stephenson indicated all talks are still preliminary. In the meantime Cingular is raising prices, sacrificing sub growth, and looking to improve profits.

Full details

WHAT TO DO WITH THE STOCK? We continue our cautious view of telecom, although recent stock price declines make us somewhat less cautious.

Within the group the Bells and rural telcos should provide the best returns. And, within the Bells, we continue to view Verizon as the best choice right now. As management indicates, share loss to UNE-P is going to be quite damaging to SBC. And we believe it will suffer the greatest consequences of this phenomenon among the three Bells. Thus, the valuation premium that SBC trades at relative to Verizon on P/E, EV/EBITDA, and dividend yield is probably not sustainable over the next six months. We continue to use our current EPS estimates of \$2.30 for this year and next.

UNE—P. A BIG PROBLEM WITHOUT LD. SBC has been the most vocal critic of UNE—P, and is working hard to raise prices and diminish the negative effect. In the absence of pervasive long distance approval, UNE—P has been and will continue to be very damaging to SBC. With LD approval in the Ameritech region not likely until the middle or second half of '03, and California not likely until yearend '02, SBC stands quite exposed at the moment. However, we should not extrapolate the SBC experience uniformly to the other RBOCs. No others face the unique combination of low priced UNE—P, high residential rates (in the Ameritech region), big concentrated industrial states, and no LD capability. Thus, we don't see Verizon in particular, and BellSouth to a lesser degree has having the same degree of exposure. So, yes, if an ILEC loses a customer to UNE—P it's a big hit to the bottom line—but it has to lose the customer for the hit to be taken. And in our view VZ and BLS are likely to be able to offset this materially better than SBC over the next year. It should be noted that SBC has been enjoying these same benefits share retention in its states where it has long distance approval. SBC intends to file cost studies in key jurisdictions, using the regulatory path as one attempt at raising rates. In addition, it continues to try to use bundling as aggressively as possible to offset share loss.

WIRELESS CONSOLIDATION A KEY OBJECTIVE. Newspaper reports have

Frank J. Governali, CFA frank.governali@gs.com Portland: 1-207-772-3300

Jason Armstrong, CFA jason.armstrong@gs.com Portland: 1-207-772-3391

Goldman Sachs Global Equity Research FOR IMPORTANT INFORMATION ABOUT GOLDMAN SACHS' RATING SYSTEM AND OTHER DISCLOSURES, REFER TO THE END OF THIS MATERIAL, GO TO http://www.gs.com/research/hedge.html, OR CONTACT YOUR INVESTMENT REPRESENTATIVE.

exaggerated the speed of wireless consolidation and the progress that has been made to date However, the desirability of getting a deal done is obvious, and the company acknowledged active conversations. Mr. Stephenson noted that of the two options for deals AWE presents less dilution but greater regulatory and integration hurdles. Voicestream presents higher dilution but far easier regulatory approval and integration. Furthermore, similar to press accounts, he indicated a deal for Voicestream may be impractical without taking in DT as an equity participant (i.e. no all+ cash deal.) And, importantly, SBC is open to that possibility

WIRELESS PRICE HIKES. DESPITE SLOWER SUB GROWTH. The healing effects of wireless mergers are not nearly upon us yet. In the meantime. Cingular is taking steps to heal thyself. The price hikes are geared to boost profitability, even as it sacrifices sub growth. The particular increase in national plan rates announced this week are geared to both reduce off—network roaming costs and slow down the consumption of TDMA network capacity. SBC and BLS are fully expecting their joint venture to experience low to no sub growth as a result of these actions as well as the customer churn that will be stimulated by the WorldCom reseller shift.

CAPEX TO REVENUE SHOULD BE NO HIGHER THAN 15%. AND WILL BE LOWER ABSENT GROWTH. There is a broad effort to cut capex in both wireline and wireless operations. In wireline Stephenson indicated that current thinking is that capex to sales should be no higher than 15% and that in the current environment it should be no higher than 13%, and yet it is. Thus, further capex cuts should occur. In our view, if demand recovery continues to falter it would not be surprising to see capex to sales fall below the 13% rate, as it has in other countries. On the wireless side, capex cuts are also anticipated. In our view, slower capex spending in wireless is further supported by the prospects of industry consolidation.

COST REDUCTIONS KEY TO MAINTAINING EARNINGS AND BOOSTING MARGINS. SBC sees the margin differential between it and VZ and BLS as indicating an opportunity for further cost cutting. Pointing to opportunities in consolidating call centers, raising efficiencies in network operations, and generally trimming overhead costs. Stephenson is focused and confident in using these steps to help improve margins in the face of share loss.

CALIFORNIA DSL EXPERIENCE GIVES CONFIDENCE IN LONG TERM POTENTIAL. In California, SBC is enjoying the benefits of scale DSL operations, having achieved about 10% penetration so far. As a result, operations are already EBITDA positive and on the trajectory to reach SBC's targeted hurdle rate.

The steps that got California to scale include: an effective self—installation program, low help desk costs: effective churn control idown towards 2+3° b and effective marketing against the cable operators. SBC believes that mass market deployment of DSL will occur, and that tiered offerings are one step in getting there. This will allow lower monthly prices for lower speeds, but should be able to maintain an average monthly price of approximately S40. This is a little higher than our long term estimate, but directionally our models look at the market in the same way. Due to the absence of long distance approval in California and the Ameritech states. SBC will continue to try to bundle DSL as a way of offsetting share loss, indicating that churn falls 75% for those customers taking DSL on top of their local service.

BLS: US\$ 25.99, SBC: US\$ 28.11, VZ: US\$ 32.35

The Goldman Sachs Group, Inc. and/or its affiliates make a market or are the specialist in the following companies' securities: BellSouth Corp., and Verizon Communications. As such, the market maker or specialist may have an inventory position, either "long" or "short," in the relevant security and may be on the opposite side of orders executed on the relevant exchange.

The Goldman Sachs Group, Inc. and/or its affiliates have received during the past 12 months compensation for investment banking services from the following companies, their parents, or their wholly owned or majority-owned subsidiaries: BellSouth Corp., SBC Communications, Inc., and Verizon Communications

The Goldman Sachs Group, Inc. and/or its affiliates expect to receive or intend to seek compensation for investment banking services in the next 3 months from these companies, their parents, or wholly owned or majority—owned subsidiaries: BellSouth Corp., SBC Communications, Inc., and Verizon Communications.

(C) 2002 The Goldman Sachs Group, Inc. All rights reserved

The Goldman Sachs Group line is a full-service, integrated investment banking, investment management, and prokerage firm. We are a leading underwriter of securities and a leading partic pant in virtually alt trading markets. We have investment banking and other business relationships with a substantial percentage of the companies covered by our investment Research Department. Our research professionals provide important input into our investment banking and other business selection processes. Investors should assume that The Goldman Sachs Group, Inc. and/or its affiliates are seeking or will seek investment banking or other business from the company or companies that are the subject of this material and that the research professionals who were involved in preparing this material may participate in the solicitation of such business. Our research professionals are paid in part based on the profitability of The Goldman Sachs Group, Inc., which includes earnings from the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes earnings from the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes earnings from the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes that the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes that the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes that includes the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes the firm is investment banking and other business. The Goldman Sachs Group, Inc., which includes the firm is investment banking of the firm is

Initial material is not in the construed as an offer to seli or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. We are not soliciting any action based on this material. It is for the general information of clients of The Goldman bachs Croup. Inc. It does not take into account the particular investment objectives if inancial situations, or needs of individual clients. Before acting on any advice or recommendation in this material, clients should consider whether it is solitane from their particular circumstances and, if necessary, seek professional advice. Certain transactions – including those involving futures, options, and other derivatives as well as non-investment-grade securities – give rise to substantial risk and are not suitable for all investors. The material is based on information that we consider reliable, but we do not represent that it is acturate or complete, and it should not be relied on as such. Opinions expressed are our current opinions as of the date appearing on this material only. We endeaver to update on a reasonable basis the information discussed in this material, but regulatory, compliance or other reasons may prevent us from doing so. We and our afficiets, directors, and employees, including persons involved in the preparation or issuance of this material, may from time to time have "long" or "short" positions in activations or self-the solitaness of environmental programs and part of this material may be (i) copied, photocopied, or double cated in any form by any means or (ii) redistributed without The Goldman Sachs Group, Inc. is prior written consent.

In a material has been issued by The Goldman Sachs Group, Inc. and/or one of its affiliates and has been approved by Goldman Sachs international which is regulated by The Enancial Services Authority in connection with its distribution in the United Kingdom and by Goldman Sachs Canada in connection with its distribution in Canada. This material is distributed in the United States by Goldman Sachs & Co., In Hong Kong by Goldman Sachs (Social ELC.). Seoul Branch, in Japan by Goldman Sachs (Singapore) Pte. This material is not for distribution in the United Kingdom to private customers as that term is defined under the rules of The Financial Services Authority, any investments, including any convertible bonds or derivative imentioned in this material will not be made available by us to any such private customer. Goldman Sachs International and its non-US affiliates may, to the extent their under applicable law, have acted on or used this research, to the extent that it relates to non-US issuers, prior to or immediately following its publication. Foreign-Currency-denominated securities are subject to fluctuations in exchange rates that could have an adverse effect on the value or price of, or income derived from, the investment in addition, investors in securities such as ADRs, the values of which are influenced by foreign currencies, effectively assume currency risk in addition, options involve is knailed and understood the current options discrosure document before entering into any options transactions.

Further information on any of the securities mentioned in this material may be obtained on request, and for this purpose, persons in Italy should contact Goldman Sachs 5.I.M.
5 p.A. in Milan or its London branch office at 133 Fleet Street; persons in Hong Kong should contact Goldman Sachs (Asia) L.L.C. at 2 Queen's Road Central; and persons in Australia should contact Goldman Sachs Australia Pty Limited. Unless governing law permits otherwise you must contact a Goldman Sachs entity in your home jurisdiction if you want to use our services in effecting a transaction in the securities mentioned in this materia.

Analyst coverage and other disclosure information is available at http://www.gs.com/research/hedge.ntml

09:22am EDT 22-Aug-02 Legg Mason (Levin, Blair(202)778-1595) Q T VZ BLS SBC Q.N Bells Retrain Guns on UNE-P, but Quick Kill Unlikely part 1

Legg Mason Wood Walker, Inc.

Industry Update August 22, 2002

Blair Levin blevin@leggmason.com (202) 778-1595 Daniel Zito dezito@leggmason.com (410) 454-4333

Bells Retrain Guns on UNE-P, but Quick Kill Unlikely

All relevant disclosures appear on the last page of this report.

KEY POINTS:

- * We believe the debate at the FCC over the future of UNE-P has surpassed the broadband debate in intensity and near-term importance for the telecom sector, as the Bells have been thrown on the defensive due to line losses to rivals.
- * We believe that the Bells (SBC, BLS, VZ, Q) will have a difficult time convincing regulators to quickly eliminate the rights of local competitors to lease out Bell networks (UNE-P) at deep discounts. This is problematic for all the Bells but, in our view, is particularly problematic for SBC as its lack of long-distance progress in the Ameritech region makes it more vulnerable to UNE-P competitors. The Bells could gain some immediate relief in business markets (as well as some relief toward deregulating their broadband offerings in separate proceedings), but we doubt the FCC will eliminate UNE-P in residential markets in the near term.
- We believe the Commission is likely to establish a sunset or triggers for phasing out UNE-P. While the details of such rules are far from settled, we think the result will give key UNE-P providers, WorldCom (WCOEQ) and AT&T (T), time to continue to change the facts on the ground. The more they win new local customers, the more they increase the potential for a backlash if the phase-out dismantles the main platform for residential competition.
- * Even if the FCC scraps or pares back UNE-P, many state regulators would likely try to retain it. Also, all decisions would be subject to court challenge that could take years to resolve, with the courts likely to maintain the legal status quo in the meantime.
- While the Bells will not gain immediate regulatory relief, we believe that through bundling and other marketing efforts, they can significantly reduce the negative impact of UNE-P competition.
- We believe another potential hightmare for the Bells would be if cable begins using UNE-P to accelerate its budding cable telephony offerings.

As we noted when WorldCom announced its "Neighborhood" plan, the intensified efforts by WorldCom (WCOEQ) and AT&T (T) to compete using the Bell Unbundled Network Elements Platform (UNE-P) has dramatically raised the stakes of the FCC unbundling policy debates. (See our April 23 note WCOM/MCI Bundled Phone Offer Challenges Rivals and Regulators.) The most recent Bell quarterly reports suggest that the impact of UNE-P is quickly growing. (For a discussion of the economics of UNE-P, see the report by our colleagues Daniel Zito and Brad Wilson, Cautious Long-Distance Outlook, June 27, 2002. For a state-by-state UNE pricing and sensitivity study, see attachment to VZ: Comments on RBOC Weakness, August 21, 2002, by our collegues Michael J. Balhoff and Christopher. C. King.)
The impact of UNE-P has caused the Regional Bell Operating Companies (SBC, BLS, Q, VZ) to shift their priorities in seeking regulatory relief.

While the core Bell policy thrust had been to gain deregulation of their broadband services, recent events suggest the Bells have ramped up their lobbying efforts to cripple the ability of competitors to use UNE-P to gain market share in the traditional voice market.

Some in the Bell camp have predicted the FCC will act to eliminate UNE-P in a flash cut. FCC action on UNE-P is still months away (probably 4-8 months) but our current view is that prediction is likely to prove largely inaccurate in the near term, particularly concerning the availability of UNE-P in residential markets. This note outlines some of the dynamics affecting the resolution of the UNE-P debate.

Background on UNE-P. UNE-P offers competitors an opportunity to use all the UNEs at discounted "TELRIC" (Total Element Long Run Incremental Cost) rates and to add further value-added services on top of the platform. According to an industry estimate building on a FCC survey of incumbent local exchange carriers (ILECs), of the 20-plus million lines won by long-distance companies (IXCs) and other local competitors (CLECs) as of June 2002, about 7.7 million are UNE-P based. It is the fastest growing method of competitive entry. In 2001, according to FCC data, more than 60% of the CLEC line growth was due to UNE-P, about twice the rate in 2000. T and WCOEQ are capturing most of the UNE-P line growth but other companies are responsible for about 43% of UNE-P lines.

Reasons for Increase in UNE-P Competition. While UNE-P has been available for some time, its use has ramped up significantly over the last year. In our view, this is due to two critical developments. First, numerous states have lowered wholesale UNE-P rates. Second, the Bells have achieved sufficient long-distance entry to give the IXCs the incentive to more aggressively use UNE-P to protect their existing markets.

Differing Impact on the Bells. UNE-P has had a differing impact on each of the Bells, affecting SBC and BLS more negatively in the last quarter than VZ. The reason for this difference, in our view, is that VZ's relative lead in gaining long-distance entry (with 74% of its lines already eligible) has given it the ability to bundle local and long distance in more states, providing a stronger defense against competition. As a measure of the value of long distance offerings in combating UNE-P competition, we note that SBC estimates that where it offers long distance, it doubles its winback rates. We also think that VZ's intensified strategy of bundling their landline voice services with wireless and Internet access services will provide an even stronger defense against UNE-P competitors.

We surmise that BLS will have greater success in stemming the tide of UNE-P line loss once it gains the right to offer long distance services in more states. It currently has applications pending in 5 of the remaining 7 states where it cannot offer such services. An FCC decision on these 5 is due in mid-September and we believe the prospects for approval are good. In light of UNE-P competition, SBC's problems in advancing its Sec. 271 long-distance applications become more important to SBC's financial picture. This is particularly true in the Ameritech region and California. SBC has a large window of vulnerability in the Ameritech region where state regulators have been aggressive in providing incentives for UNE-P competition, but SBC has not made significant progress with the testing and verification required for Sec. 271 approval. In California, SBC has better prospects, as it hopes to send the FCC its long-distance application in September. Given the TELRIC price cuts just announced by the state PUC and California's size, we expect a major push by T to sign up customers before SBC gets approval to offer long distance services.

Q has some vulnerability to UNE-P, due to its lack of long-distance approval, but we expect Q to gain approval to offer long distance services in a number of states in the next several months. While Q's states are not the highest priority states for the UNE-P based competitors, we note that UNE-P competition has attracted more than 5% market share in Iowa, North Dakota, South Dakota, and Wyoming.

The Bells' Attack on UNE-P. The Bells have two basic strategies for attacking the viability of UNE-P. First, they can challenge the TELRIC discounts at both the federal and state levels in an effort to raise UNE-P rates and squeeze their competitors' margins. Verizon recently took this tact at the FCC through a letter by its General Counsel suggesting ways the agency could "clarify" TELRIC, all in ways that would have the affect of raising the price for competitors. We expect the other Bell companies to join this effort. The Bells are also likely to challenge individual state UNE pricing decisions in regulatory proceedings and in court. For example, SBC has already filed a petition to raise TELRIC rates in OH and we have heard they are considering filing a petition to do the same in Illinois, though they are waiting until after the November election, in which three of the five members of the State PUC could change. The Bells are also contemplating filing suits challenging some of the states' TELRIC decisions as an unconstitutional taking.

Second, as part of the FCC's "Triennial Review" proceding, the Bells hope to convince the FCC to remove certain elements, most notably switching, from the UNE list. Such a decision would not only raise the cost of providing services through UNE-P, it also would make UNE-P impractical for the consumer market due to the difficulty of seamlessly migrating tens of thousands of lines from the ILEC's to the competitor's switches. We note that as offering unbundled switching is specifically listed as one of the requirements for gaining long-distance entry, the legal burden of eliminating the requirement is likely to be higher.

While the Republican majority at the Commission wants to move in a deregulatory direction, we do not believe that majority has yet decided how that impulse should be channeled in revising the UNE rules. The staff is evaluating the effects of UNEs in various markets, and that analysis, particularly regarding the impact of UNE-P on investment in facilities, could swing any of the commissioners in different directions. (The review is at an early stage as the staff is currently immersed in evaluating 17 pending Sec. 271 applications.) But some of the dynamics affecting the UNE-P policy process are already apparent.

FCC Direction: Set Out Path for Gradual Elimination of UNE-P. We believe that the FCC is likely to view UNE-P as a transitional vehicle to more facilities-based competition. We also believe that the Commission views the D.C. Circuit's May 24 USTA v. FCC ruling on UNEs favoring the ILECs, as subjecting any decision to eliminate an element on a national basis to a material legal risk. In that light, we believe the Commission is likely to view its job in the Triennial Review not as deciding whether to keep or eliminate UNE-P, but rather to set forth the right balance of incentives and market signals for creating a glide path from UNE-P to facilities-based competition.

Transitional Tools: Sunsets and Triggers. There are two basic ways the Commission could act. First, it can eliminate UNE-P at a date certain (a "sunset"). While that approach provides the most market certainty, it is legally vulnerable. Critics could attack an FCC projection of future market conditions as not reflecting the requirement that competitors' should be able to gain access to network elements without which their ability to compete would be "impaired." One way to mitigate the legal risk is to provide a "soft" sunset in which the date merely creates a presumption that the FCC would act to eliminate UNE-P. While such a rule is more defensible, it provides less certainty to the market and the companies, effectively delaying the ultimate debate for another day; a day, it is worth noting, in which the composition of the Commission and the market structure of the telecom industry could be very different.

(continued...)
First Call Corporation, a Thomson Financial company.
All rights reserved. 888.558.2500